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ABSTRACT

In response to the global outcry for environmental information, the Environmental Protection Agency (EPA) launched its International Data Sharing Program in 1989 and began to forge information partnerships with developing nations. The three objectives of the program are to establish EPA as a partner in information exchange, to disseminate significant environmental information, and to assist developing nations in establishing effective environmental management capabilities. The EPA uses the regional service center model for disseminating information beyond U.S. borders. Regional information networks provide a focal point for dissemination and provide information support to a geographic area. As the donor partner, EPA supplies the basic equipment, initial training, and core materials needed for support to the region. One example of a regional network is the INFOTERRA system in southern Africa, an information exchange network consisting of 138 nations coordinated by the INFOTERRA Programme Activity Centre in Nairobi. When this network is fully developed, countries within the region will be able to collect and disseminate their own materials, exchange environmental information among themselves, and obtain from the United States any needed documentation or data. A second example of a regional network is the Regional Environmental Center for Central and Eastern Europe (REC), which was initially developed to address the pollution problems of Hungary, and now expanded to include Poland, Czechoslovakia, Yugoslavia, Bulgaria, and Romania. The common element in these examples is the regional cooperative approach to information sharing. (DB)

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The Regional Approach to Information Sharing:
The U.S. Environmental Protection Agency's Experience
in Southern Africa and Eastern Europe

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Why a Regional Approach?

At the Environmental Protection Agency (EPA), any other way of doing business would be difficult for us to justify. Regional cooperation is not just a nice idea in environmental management and planning, it is a mandate. Environmental issues don't follow political lines, they trace the web of watersheds and spread through underground aquifers or blow across boundaries. Even in those regions of the world where debilitating political tensions preclude other forms of cooperative ventures, there is something about a pending environmental threat that brings traditional enemies together. Right now in the Persian Gulf, combatants raw from war are cooperating to save an environment devastated by that human conflict.

This is not to suggest that regional cooperation is driven only by environmental considerations. Historically, regional association has been a way in which peaceful communities have shared their burdens and tackled tough problems. On the contemporary scene, regional cooperation has become a driving economic force as the European Community approaches unification in 1992 and the Free Trade Agreements are negotiated in North America. Regional efforts simply make good administrative sense because they build on the foundation of similar histories and cultures, geographic proximity, shared resources, economic links, and political alliances. Most importantly for the developing world, a regional approach allows resources, talents, and skills to be shared among all participants.

What are we trying to achieve?

In response to the global outcry for environmental information, the Environmental Protection Agency (EPA) launched its International Data Sharing Program in 1989 and for the first time began to forge information partnerships with the developing world. This new program has three primary objectives. First, we need to establish EPA as a reliable partner in information exchange relationships. Reliability

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is critical in building the trust needed to develop strong information sharing partnerships. We have inventoried all of the existing Agency international agreements concerning information and are assuring that they are implemented in an efficient and timely fashion.

Second, we want to make significant environmental information available in a form that is useful to international partners. We are striving to avoid responses to international requests that are laden with indecipherable government language or supplied in a form that is inappropriate for the user.

Third, we need to assist developing nations to establish effective environmental management capabilities so that they can utilize the information from the U.S. and effectively collect and disseminate their own information for local and global use. It is our process in implementing this third objective that we will examine with you today.

The EPA has embraced the regional service center model for assisting information dissemination beyond US borders. Using a regional network of local focal points for dissemination, regional centers can provide information support to a geographic area. This model has taken on several variations depending on the idiosyncrasies of the program and our role in it. For example, our efforts in southern Africa are coordinated through an established United Nations information network. With the support of the UN, we are acting as a facilitator to enable an African country--Botswana--to act as the Regional Service Center in that region. In Eastern Europe, EPA is acting under the pressures of a Presidential mandate and is attempting to create a regional center that will provide effective information services as well as serve other functions demanded in the legislation.

Common to both of these schemes is that, as the donor partner, EPA supplies the basic equipment, initial training, and core materials needed for adequate information support to the region. In addition, EPA provides the support necessary for the other information partners within the region to develop the capacity to use the regional service center effectively. If our program is successful, EPA should have a steadily decreasing investment in both regions as they become equipped, skilled and able to collect and exchange environmental information resources. As reliable data from the developing world become available, our investment should pay off in an improved understanding of global environmental trends and a better environment for our shared planet.

Case Study: INFOTERRA Southern African Regional Companionship

Why the Southern African region?

Four major trends and one critical need are coming together that give the African environmental information professional an unprecedented opportunity to develop innovative and effective information systems. Let's consider the trends. First, the link between environmental information and economic development has been clearly established. It is now standard for environmental impact studies to precede development projects. Second, throughout Africa there is an evolving recognition of the importance of information networks to connect institutions, policy makers, researchers, and the public. Third, many of the latest information technologies, e.g., CD-ROM and desktop publishing, appear to be custom-made for the needs of developing countries. They are inexpensive, low maintenance and user-friendly. Fourth, there is a strong interest among governments, international organizations and technical assistance agencies for improving the transfer of environmental information within the region. These positive trends combined with the critical need for accurate scientific and technical environmental information make the creation of a network a timely undertaking.

The Project

The Environmental Protection Agency is the USA National Focal Point for the United Nations Environment Programme's (UNEP) INFOTERRA system. INFOTERRA is a decentralized environmental information exchange network consisting of 138 nations coordinated by the INFOTERRA Programme Activity Centre in Nairobi. The National Focal Points are generally located in a major environmental library within the country and respond to queries for environmental information from all sectors--business, government, scientist, general public.

Managing the disparity between the information-rich and information-poor National Focal Points is a compelling issue for the network. A companion program has been developed to bridge this gap. Under the guidance of the Program Activity Centre, National Focal Points in the developed world have been asked to establish a companionship with a developing country National Focal Point counterpart. These partnerships provide equipment, training and information support to the developing country and assist the developed world partner to gain a better understanding of environmental issues and successful information transfer mechanisms in the developing world. The U.S.A. and Botswana initiated the first of these

companionship relationships last year and broadened the scope to include the English-speaking countries of southern Africa as network partners: Lesotho, Malawi, Tanzania, Zambia and Zimbabwe.

The companion program is still in its development phase. As a first step, a team consisting of the Botswana and USA National Focal Point Managers and the Computer Systems Officer from the INFOTERRA Programme Activity Centre in Nairobi conducted a needs assessment survey in the region during August, 1990. Clients of the Botswana National Focal Point were interviewed to determine their information needs. In addition, an on-site tour of all the INFOTERRA National Focal Points in the region was conducted to determine the barriers and opportunities for network development. The needs assessment interviews made it apparent that networking with existing regional networks would be a valuable key to the success of the new group. In particular, the Southern African Development Coordination Conference (SADCC) and the Economic Commission on Africa were interested in being associated with the evolving INFOTERRA network and have been included as observers to the preliminary meetings.

In the winter of 1990, INFOTERRA/USA and the INFOTERRA Programme Activity Centre purchased the basic equipment to assist Botswana in developing the information services required of a regional service center. The equipment included a PC with modem, photocopier, microfiche reader and cabinets, CD-ROM player as well as a core library of CD-ROM disks, and EPA documents on microfiche.

In the spring of 1991, the two staff members of the Botswana National Focal Point travelled to the Nairobi headquarters for training in database searching and in computer applications. The Programme Activity Centre Computer Systems Officer accompanied the couple back to Botswana, installed the equipment, conducted further on-site training and did some system trouble-shooting. He also staged a day of database demonstrations for the various clients interviewed during the needs assessment survey to illustrate the information potential of the Regional Service Centre.

To conclude the development phase, all of the National Focal Points within the region will meet in Botswana for a week during July 1991 to define the scope and the process for network development. Each National Focal Point will present its views on network formation. Afterwards, working groups will draft initiatives for consideration by all participants and a strategy will be adopted. Training in computer applications will be offered during the sessions. After the conference, the Botswana and USA National Focal Points and the INFOTERRA Programme Activity Centre will evaluate progress and devise an action plan from the approved strategy.

Barriers

The preliminary Needs Assessment Survey revealed some barriers that will have to be surmounted in order to develop a Southern African Regional information network. These barriers fall into two neat categories--things we cannot change and things we can change. In the first category are barriers outside the scope of the companionship program that will have to be addressed by individual governments over the long term as information sharing capacity is developed, e.g., a lack of agreement between the public telephone and telecommunications office and the information community to develop policies and pricing strategies that would promote access to electronic networks or the outlawing of modems by a government. In the "things we cannot change" category all we hope to do is identify the barriers so that we can plan around them. Network strategies will be developed with the assumption that these barriers will remain in place. National Focal Points will be urged to promote a dialog with governing bodies and the information community to effect changes.

The "things we can change" barriers are the generic problems common to most of the information networks in the region. At the July meeting, the network will identify these problems, and develop its strategy to work for their resolution. Anticipated barriers include:

- o shortage of funds;
- o technical difficulties with communication systems;
- o shortage of trained personnel;
- o absence of information systems support, service facilities and supplies;
- o lack of compatibility among systems.

Building Bridges

The role of the INFOTERRA Programme Activity Centre and the INFOTERRA U.S.A. National Focal Point can best be described as a facilitator or enabler. In the 1990-1991 development phase the major objective of INFOTERRA/USA & Programme Activity Centre is to assist with development of a network definition of user needs and systems design so that all necessary elements are addressed, including objectives, policy, economics, management, marketing, operations, training, choice of suitable technologies. At the end of three years, the network should be fully developed. At this juncture countries within the region should be able to collect and disseminate their own materials, exchange environmental information among themselves, and obtain from the USA any needed documentation or data.

As the network matures in 1992 and beyond, we envision the role of INFOTERRA/USA and the Programme Activity Centre will change and include the following activities:

- o Provide technical assistance, trouble-shoot and train by arranging short expert visits.
- o Assist African National Focal Point personnel to understand, learn and use new systems by supporting travel to the USA and/or Nairobi for short training sessions.
- o Arrange for grants to National Focal Point personnel for advanced training in library science at African or USA universities.
- o Disseminate information about information services and technologies, and serve as a link for information about software, equipment, training opportunities.
- o Provide USA environmental information to a central location for dissemination throughout the region as it is needed.

Ultimately, regional environmental issues are global issues and efforts to enhance the collection and dissemination of environmental information in Africa will assist not only the African nations but the USA and the United Nations Environment Programme to make better environmental decisions.

Case Study: Regional Environmental Center for Central and Eastern Europe (REC)

Unlike our project in Southern Africa which originated with our involvement in an existing international program--INFOTERRA, the project in Eastern Europe began as a unilateral effort to create something new. President Bush visited Hungary in the summer of 1989 and promised the establishment of a regional environmental center in Budapest to address the overwhelming pollution problems of the area.

In that heady fall of 1989 when democracy was breaking out all over, the US Congress passed the Support for East European Democracy Act (SEED) which authorized \$5 million over three years to fund the establishment of the center as an independent, non-advocacy, not-for-profit organization. The Center was intended as a source of information and assistance for citizens of the region regarding environmental problems. The US EPA was given the lead on the project

and told to have a center ready for opening by the following summer.

Our first task in the International Data Sharing Program was to convince our EPA colleagues that information resources were fundamental to our common objectives in Eastern Europe. To librarians and other information professionals, this idea is so simple that it often goes without saying. When dealing with government bureaucrats talking about institution building and environmental education, the idea was almost a novelty. One lesson we have learned is never to assume that an EPA program will come to us. We, as information professionals, must insert ourselves in the business of international exchange of environmental information.

Our program falls within the Office of Information Resources Management. Our definition of information resources includes the domain of our office--computer equipment and systems, and library and information services. Telecommunications fall under a related office with which we work closely. Once we had the attention of the decision makers, we presented a strategy for providing a basic level of information resources for opening day of the center and recommendations for further development.

Imagine, if you will, a group of information specialists sitting around a table in Washington trying to conjure what a nonexistent environmental center in Budapest would need to fulfill its US congressional mandate. This was how we formulated the strategy. We focused on the basics--a few personal computers and printer, a fax machine, a photocopier, a video display, and a core collection of environmental documents in paper copy. We decided that on-line databases were not feasible at this basic level, and decided, instead, to try to provide CD-ROM databases.

These were the physical resources we wanted to provide. On another level we thought about what EPA really had to offer a fledgling democracy with overwhelming environmental and economic problems. Without any personal contact with Eastern Europe at this point, we could only imagine. We tried to be sensitive to the fact that not all information originates in the US, therefore, dumping a mass of US information at the door of the Center was not what they needed.

Our unique contribution could be teaching a concept fundamental to democracy. Information collected or produced by governments must be available to the governed. As James Madison said in 1822, "Knowledge will forever govern ignorance; and a people who mean to be their own Governors must arm themselves with the power which knowledge gives." When applied to environmental information, this concept encourages wide dissemination of environmental information as beneficial to the goals of environmental protection and improves

environmental results. Once again, to librarians, this idea is elementary, but to government decision-makers whose budgets pay for the printing costs and computer time that make information available, this idea has been difficult to grasp.

Armed with this simple strategy, our concept of public access and the knowledge that there was money to tap into, we set about making the center happen. On September 6, 1990, the REC opened with a flourish. On a remarkably clear day in Budapest in the garden of a renovated Silk Mill, EPA Administrator Reilly, the President and Prime Minister of Hungary, and other European dignitaries attended the opening ceremony and saw documents on the shelves and demonstrations of CD-ROM, computer slide shows, video, and geographic information systems.

Barriers

Time was probably the overriding constraint in all our decisions. Could we accomplish it in less than six months? If we could, then, would it "show" on opening day? For instance, yes, we could gather donations of environmental documents, ship them to Hungary and fill the new shelves. No, nobody would notice on opening day if they were not classified. Yes, we could produce computer slide shows that demonstrated the utility of the software. No, nobody would notice that the computers were borrowed because the purchased ones had not yet arrived.

Distance was another constant stumbling block. Even though we made several trips to assess the situation and contracted out local procurement, it was difficult and often frustrating to try to keep informed by trans-Atlantic telephone. Some things came as a total surprise to us, such as the fact that the computers were not what we thought we ordered.

The fact that the physical site was under renovation and still incomplete on opening day, the fact that the telephone lines went in only a few days before and were generally unreliable, and the fact that essentials like floppy diskettes and computer paper had to be scrounged were a few of the inconveniences that one must expect in a society not built on market demand. On the other hand, on one occasion we walked out of a computer store carrying a PC and printer with nothing more than my signature and promise that we would return the following week with cash, because they did not honor credit cards.

Language was not as large a problem as anticipated. The charter established English as the working language of the center. US EPA wanted to translate an introductory brochure on information resources into Hungarian but the Charter members emphatically insisted English

only. Their reasoning was that if it were translated into one language, it would have to be translated into all nine languages of the region.

As we gained experience in Eastern Europe, we came to recognize that English is probably the language of the environment. Our recommendation to the center for dissemination of information was to consider their targets. If the information was on scientific or technical level, English was probably adequate. If the information was intended for public education or grassroots action, local areas should be encouraged to make translations available.

Classes in environmental English will be taught at the center. Language was a major problem in dealing with the logistics of starting operation--deliveries, banks, customs, communications--all required knowledge of Hungarian. Bilingual or trilingual staff became extremely valuable.

Probably, the problem that disturbed me the most was the fact that no information staff were hired to train and to provide continuity between our EPA startup and the independence that immediately followed. Because the international governing board established by the charter decided that all major staff positions must be open to international competition, to this day, only one appointment to the permanent staff has been made. And because information is seen as a technical commodity, the information positions are described in terms of computer and telecommunications skills, not information science or subject skills.

Meanwhile, the documents are still uncataloged, the CD-ROM is not being used, the computer technology exceeds the expertise of the users, and many environmental questions go unanswered.

Building Bridges

We built our own internal support systems in the process of this project which we expect to be able to utilize in the future. Although our International Data Sharing team has expertise in library and information services, we quickly realized we needed technical expertise. At our request a team was formed with EPA specialists in the areas of local area networks, geographic information systems, systems analysis, telecommunications, and budget. The team met to refine the strategy, review procurement, and advise on all issues. Two members were sent to Budapest on brief missions as technical consultants. The experience they gained will be invaluable in communicating needs and issues in future projects.

Because this whole project started as a Presidential initiative, visibility was high from the beginning. Enthusiasm was evident on

both sides of the Atlantic and that translated into offers of help, both cash and in kind. An estimate would be that fully one half of all equipment and services have been donated. Handling donations does generate its own problems of coordination and compatibility, but lack of resources is not one of them.

The REC has embarked on a program to expand the focus from Budapest outward to the six countries of the region--Poland, Czechoslovakia, Hungary, Yugoslavia, Bulgaria and Romania. They intend to set up a network with about three sub-centers in each country. The local sites will be connected to each other and to Budapest by voice and data lines.

On a recent technical consulting mission for the REC, we had two important recommendations. The first is that the network does not need to wait for cable lines to be laid. As soon as facility and staff are identified at a secondary site, the network can start to build. Networks need to develop in expectations, relationships and capacities. None of these are dependent on technical capabilities. The second recommendation is the flip side of the first. Installing a sophisticated telecommunication system does not guarantee that sophisticated information will then be exchanged. Somebody needs to know what kind of information is available, how to access it, and what to do with it. You and I know that somebody is a librarian.

Conclusion/Results

The common element in these very different case studies is the regional approach to information sharing. Both are efforts to work initially with one country and, by creating expectations and offering further support, to encourage expansion to a region. In both cases, the regional responses have been overwhelming. Everybody wants to join the network.

Another common element is the leveraging of resources. In the case of Southern Africa, it is through the established program of UNEP's INFOTERRA. The US supplies funding; INFOTERRA provides training. In the case of Eastern Europe, it is through the visibility of a Presidential initiative. The US contribution has been matched by other countries eager to establish their influence in the area.

One way is not necessarily wrong and the other right. Both projects are well launched and stand a good chance of surviving the next three years. One was started much more quickly than the other. For all the problems created by that pressure, the deed was done in record time.

Both projects need more nurturing. Once the funding mechanism is in place and the equipment starts arriving, the people contacts and

nurturing must take precedence. The ultimate success of a project can depend on the relationships established between our office and the recipient offices. We continue to strive to be a reliable and credible partner in these relationships.